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Mood and Persuasion:
A Cognitive Response Analysis

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The impact of happy and sad moods on the processing of persuasive communications is explored. In Experiment 1, sad subjects were influenced by a counterattitudinal message only if the arguments presented were strong, not if they were weak. Happy subjects, however, were equally persuaded by strong and weak arguments, unless explicitly instructed to pay attention to the content of the message. Subjects' cognitive responses revealed a parallel pattern, suggesting that the findings reflect the impact of mood on cognitive elaboration of the message. In Experiment 2, working on a distractor task during message exposure eliminated the advantage of strong over weak arguments under bad-mood conditions. Good-mood subjects were not affected by a distracting task, suggesting that they did not engage in message elaboration to begin with. It is concluded that subjects in a good mood are less likely to engage in message elaboration than subjects in a bad mood.

Attempts to persuade another person are often accompanied by efforts to change the other's mood state. In advertising, political campaigns, and informal social encounters, efforts to make the recipient feel good often precede the actual persuasion

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attempt. The frequent use of this persuasion strategy and the practitioners' faith in it suggest that it may actually be effective. However, the exact mechanisms by which recipients' affective states mediate persuasion processes are not yet understood.

The present article explores the impact of happy and sad moods on the processing of counterattitudinal communications in the context of a cognitive response approach to persuasion and attitude change. According to Petty and Cacioppo's (1986a, 1986b) elaboration likelihood model of persuasion, recipients of a persuasive communication may either elaborate the content of the message ("central route to persuasion") or rely on simple cues that are unrelated to the message's content, such as the communicator's prestige or likableness ("peripheral route to persuasion"). These alternative routes constitute the extreme endpoints of an elaboration continuum. If the central route to persuasion is traveled, the resulting attitude change is a function of the recipients' cognitive responses to the message: The more thoughts that come to mind that support the position advocated in the message, the more pronounced the attitude change will be. Accordingly, messages that present strong arguments are more effective than messages that present weak or flawed arguments. The quality of the message affects attitude change less, however, if the peripheral route is traveled, because message elaboration is minimized.

Which "route to persuasion" is more likely to be used depends on recipients' motivation and ability. If the recipient is sufficiently motivated and able to process the content of the message, the "central route" is likely to predominate. The "peripheral route" is likely to be used if motivation and/or ability is low.

According to this general framework (cf. Chaiken, Liberman, & Eagly, in press, for a related model), recipients' mood state may influence persuasion processes in several ways.[1] First, the recipient's mood itself may serve as a peripheral cue. As research on the informative functions of affective states has shown in other domains of judgment, individuals frequently simplify the judgmental task by asking themselves, "How do I feel about it?" In doing so, they use their affective reaction to the object of judgment as a basis for its evaluation (see Schwarz, in press; Schwarz & Clore, 1988, for reviews). If individuals use their affective state as a peripheral cue, they should report more favorable attitudes toward the issue of the persuasive message under a good mood than under a bad mood. Second, the criteria used to evaluate the message may be influenced by the recipients' affective state, and recipients in a bad mood may use harsher criteria. Third, attitude judgments may be mediated by mood-congruent memory (see e.g., Bower, 1981), and recipients in a good mood may generate more positive associations than recipients who are in a bad mood. If so, recipients in a good mood should be more likely to be persuaded than recipients in a bad mood. In summary, all these hypotheses predict a main effect of mood such that individuals in a good mood are more likely to be persuaded than individuals in a bad mood.

Alternatively, however, it is conceivable that subjects' affective state influences the degree to which they elaborate the content of the message presented to them. For example, Isen and colleagues (for a review see Isen, 1987) suggested that individuals in a good mood may avoid cognitive effort that might interfere with their ability to

maintain their pleasant affective state. If so, persons in a good mood may be unlikely to elaborate the message.

The effects of bad moods, however, are more difficult to predict. On the one hand, research on coping with bad moods (e.g., Rosenbaum, 1980) suggests that individuals in a bad mood may be motivated to distract themselves from unpleasant thoughts and may thus be particularly likely to engage in other activities that are irrelevant to the factors that produced their bad mood. Thus, they may concentrate on the message and elaborate its content. On the other hand, depressed moods have also been found to go along with decreased motivation (see e.g., Peterson & Seligman, 1984) and may thus decrease the likelihood of message elaboration.

Moreover, research on the effects of mood on problem solving suggests that good moods may facilitate the use of simple heuristics whereas bad moods may facilitate the use of detail-oriented, analytic processing strategies (see Fiedler, 1988, and Schwarz, in press, for reviews). If individuals' affective state influences the degree to which they elaborate the content of the message, main effects of mood are unlikely to be obtained. Rather, the impact of recipients' mood should depend on the quality of the arguments presented to them. As a considerable body of research has shown, strong arguments are more persuasive the more the recipient engages in message elaboration. Conversely, weak arguments are less persuasive the more the recipient elaborates the content of the message, generating counterarguments. Accordingly, a comparison of the impact of affective states on the persuasiveness of strong and weak arguments allows an evaluation of the proposed hypotheses.

The currently available evidence bearing on these hypotheses is rather limited. The most germane study was reported by Worth and Mackie (1987). They found that subjects who were in an experimentally induced good mood were less influenced by the quality of message arguments than subjects whose mood was not manipulated. Their data suggest that this effect may be mediated by differences in the elaboration of the message, because similar patterns emerged for measures of attitude change and cognitive responses. Thus, being in a good mood may reduce the likelihood that a central route to persuasion is traveled, either because of a lack of motivation or because of a lack of ability. However, in their study, good mood was induced by an unexpected pleasant event – namely, finding a dollar bill that subjects ostensibly had won in a lottery. In contrast, neutral-mood subjects were not exposed to an unexpected event. Unexpected events, however, have been shown to instigate causal reasoning (e.g., Hastie, 1984; Weiner, 1985), and thinking about the pleasant surprise, rather than being in a good mood per se, may have interfered with the elaboration of the message. In addition, subjects in the Worth and Mackie (1987) study were instructed to imagine a delegate delivering a speech and to evaluate his performance. This instruction may focus subjects' attention on aspects other than the content of the message (e.g., how arguments are organized and presented) and may thus decrease elaboration likelihood to begin with. In contrast, if subjects' attention were focused on the message, mood effects might be limited or absent.

Experiment 1 was designed to explore the relative impact of good and bad moods on recipients' processing of persuasive communications that present strong or weak

arguments under conditions that either do or do not focus their attention on the content of the message—that is, under conditions of either moderate or high elaboration likelihood. To induce a good or bad mood, subjects provided a vivid report of a pleasant or an unpleasant life event. As part of a purportedly independent second study, they were subsequently exposed to a tape-recorded communication that presented either strong or weak arguments in favor of an increase in student services fees. Half the subjects were asked to pay attention to the quality of the information provided. In contrast, the others were told that the study was concerned with language comprehension, focusing their attention on paraverbal aspects of the communication. Finally, subjects' attitudes toward an increase in student services fees, their cognitive responses to the message, their memory for the message's content, and their evaluation of the message were assessed.

EXPERIMENT 1

Method

SUBJECTS AND DESIGN

Eighty-seven nondepressive female students (Beck Depression Inventory scores less than 12, median = 4; assessed 1 week before Experiment 1) at the University of Heidelberg, West Germany, with a mean age of 22.3 years, were randomly assigned to the conditions of a 2 (positive vs. negative mood) × 2 (focus of attention on content vs. on language) × 2 (strong vs. weak arguments) factorial between-subjects design or to a nonfactorial control group. Number of subjects per cell ranged from 9 to 11. Subjects received DM 10 (approximately $5 at the exchange rate of the time) for their participation.

PROCEDURE

Overview. Subjects were run in groups of three to six and were seated at separate tables to minimize interaction. They were told in advance that they were to participate in two independent studies. The first was a study on personality, conducted by the experimenter as part of his thesis research, part of which would be the construction of a life-event inventory. This would be followed by another study, conducted by a research group at another university in the Heidelberg area, which the experimenter was ostensibly working for. This second study would involve listening to a tape recording and answering some questions. The "first study" contained the mood manipulation, and in the "second study" the persuasive message was presented and dependent variables were assessed.

Independent variables. Happy or *sad moods* were induced by asking subjects to provide a vivid and detailed written report of a happy or a sad life-event, purportedly to help with the construction of a "Heidelberg Life Event Inventory" that would make use of the reported events. This cover story has been found to successfully disguise the mood induction nature of the task (see Schwarz, 1987, for a discussion). Subjects were given 15 minutes to do so and were encouraged to relive the event in their mind's eye.

After completion of this task, subjects were thanked and were introduced to the "second study." They were first given a "Participants Questionnaire," printed on the letterhead of another university. Embedded in this questionnaire was a manipulation check that read, "How do you feel right now, at this very moment?" (1 = *very bad*; 9 = *very good*).

After completion of the Participants Questionnaire, the second study was introduced either as an experiment on the evaluation of arguments (*arguments focus condition*) or as an experiment on language comprehension (*language focus condition*). Subsequently, subjects listened to a tape-recorded communication that announced an increase in student services fees from DM 45 (approximately $22.50) to DM 65 (approximately $32.50) per semester, to take effect at the beginning of the following academic year at the subjects' university. This increase was justified either with 11 *strong arguments* or with 11 *weak arguments*. The two messages were of approximately equal length.

Pretest data based on 18 subjects indicated a reliable difference in the perceived quality of the arguments, $M = 6.6$ for the strong and 4.3 for the weak arguments on a 9-point scale (the scale ranged from 1, "not strong at all," to 9, "very strong"), $t(16) = 2.77$, $p < .02$. No differences in comprehensibility of the message or likability of the communicator emerged, all ts < 1.

Dependent variables. After exposure to the message, subjects reported their approval of an increase in student services fees along a rating scale from 1 (*strongly disapprove*) to 9 (*strongly approve*). Subsequently, they indicated the fee that they would consider appropriate.

Following the attitude measures, subjects rated the strength of the presented arguments (1 = *not strong at all* to 9 = *very strong*). Then they were instructed to list within 3 min "all thoughts that had come to mind while listening to the tape recording, no matter if they seem important or unimportant to you." Subjects were provided a sheet with 10 boxes and were instructed to list only one thought per box. It was pointed out that they were not required to use all boxes.

After completion of this task, they marked each thought as "Favorable" (i.e., supporting the suggested increase), "unfavorable" (i.e., opposing an increase), or "neutral" (i.e., unrelated to the issue), following similar procedures used in other studies (e.g., Cacioppo, Harkins, & Petty, 1981).

Finally, subjects' memory for the arguments presented was assessed. They were given a surprise recall test and wrote down all arguments they could remember. Subsequently, they received a recognition test and indicated which of 30 arguments they had actually heard. The recognition list consisted of the 11 strong and 11 weak arguments plus 8 additional statements. Thus, there were 11 previously presented arguments and 19 foils for each subject. Subjects were given 3 min for each of these tasks.

Control group. Subjects in the nonfactorial control group were exposed to neither a mood manipulation nor a persuasive communication. They were only informed of the intended increase in student services fees and reported their attitudes toward this increase. No other dependent variables were assessed.

TABLE 1: Attitude Change and Cognitive Responses as a Function of Mood, Message Quality, and Focus of Attention

	Focus of Attention			
	On Arguments		*On Language*	
	Mood		*Mood*	
	Good	*Bad*	*Good*	*Bad*
Attitude Change				
Approval				
Strong arguments	5.4*	7.3*	4.6*	5.4*
Weak arguments	3.0	3.0	4.7*	3.0
Recommended fee				
Strong arguments	53.98*	59.29*	51.11	54.00*
Weak arguments	47.78	45.63	56.43*	48.75
	Control group		Approval:	3.3
			Money:	48.44
Cognitive Responses				
Favorable thoughts				
Strong arguments	.19	.37	.14	.31
Weak arguments	.19	.15	.16	.06
Unfavorable thoughts				
Strong arguments	.48	.33	.55	.35
Weak arguments	.54	.49	.50	.59

NOTE: The recommended fee is given in deutsche marks. The possible range of values for approval is 1 (*strongly disapprove*) to 9 (*strongly approve*). The cognitive response data show the mean proportions of favorable and unfavorable thoughts.
*$p < .05$ for differences from the control group.

After completion of the procedures described above, all subjects were thoroughly debriefed and dismissed.

Results

Mood. As expected, subjects who had to describe a happy event reported being in a better mood ($M = 7.0$) than subjects who described a sad event ($M = 6.1$), $F(1, 70) = 5.01$, $p < .03$. This indicates that the mood manipulation was successful. No other significant effects emerged, all Fs < 1.

Attitude change. Both attitude questions were analyzed by a 2 (Mood) × 2 (Focus) × 2 (Quality of Arguments) MANOVA (all multivariate F ratios are based on Wilks's lambda). Because univariate analyses indicated the same results for each of the dependent variables, only the multivariate test are reported. The means of both variables are shown in the first part of Table 1 as a function of the experimental manipulations.

Subjects who were exposed to strong arguments reported more positive attitudes toward an increase in student services fees than subjects who were exposed to weak arguments, multivariate $F(2, 58) = 5.65$, $p < .01$.[2] This main effect was qualified by a significant interaction of argument quality and mood, multivariate $F(2, 58) = 5.26$, $p < .01$.

Subjects in a bad mood but not subjects in a good mood were differentially affected by strong and weak arguments. Specifically, subjects in a bad mood reported a higher approval of the intended increase, and suggested a higher fee as appropriate, when they were exposed to strong rather than weak arguments; multivariate $F(2, 62) = 8.58$, $p < .001$, for the simple main effect. Subjects in a good mood were equally affected by strong and weak arguments, multivariate $F < 1$.

In addition, a significant interaction of argument quality and focus of attention emerged, multivariate $F(2, 58) = 4.66$, $p < .02$, that was independent of the mood manipulation. Strong arguments were more influential than weak arguments when subjects were instructed to focus on the quality of the information presented; multivariate $F(2, 62) = 8.17$, $p < .001$, for the simple main effect. When subjects were given a language comprehension set, however, argument quality did not exert a significant influence, multivariate $F < 1$.

Finally, the means of all experimental conditions were compared with the mean of the nonfactorial control group by planned comparisons. The results of these tests, shown by asterisks in Table 1, indicate that strong but not weak arguments resulted in significant attitude change when subjects were in a bad mood, independent of the focus of attention manipulation. Subjects in a good mood, in contrast, were influenced by strong arguments but not by weak arguments when they were explicitly instructed to evaluate the quality of the arguments. Without this explicit instruction, good-mood subjects were equally influenced by strong and by weak arguments, although this pattern did not result in a significant triple interaction. Thus, being in a bad mood seemed functionally equivalent to being instructed to focus on the quality of the arguments presented, and either of these manipulations resulted in a differential impact of strong and weak arguments.

The results reported so far are incompatible with hypotheses that predict a main effect of mood, which was not obtained. Thus, it seems unlikely that subjects based their evaluation of the issue on their affective state at the time of judgment or that the impact of mood was mediated by more favorable associations under good than under bad mood. Rather, the findings suggest that subjects in a bad mood were more likely to elaborate the content of the message than subjects in a good mood, resulting in a greater impact of strong than of weak arguments under bad mood. Alternatively, subjects in a bad mood may have used harsher criteria to evaluate the quality of the message than subjects in a good mood, rendering the weak message less convincing. We will now turn to data that bear on these possibilities.

Perceived argument quality. As expected, subjects rated the strong arguments as stronger ($M = 6.0$) than the weak arguments ($M = 3.5$), $F(1, 70) = 27.48$, $p < .0005$. However, their evaluation of the arguments was not affected by their mood or by the induced focus of attention, all Fs < 1. Thus, the hypothesis that subjects in a good

mood may have used more lenient criteria to evaluate the quality of the message received no support.

Cognitive responses. The average number of thoughts that subjects reported in the thought-listing task (M = 5.6, s = 1.89) was not significantly affected by the experimental manipulations, all $ps > .25$.

However, separate analyses of the proportions of favorable and unfavorable thoughts, shown in the lower part of Table 1, revealed systematic differences. Overall, subjects reported a higher proportion of favorable thoughts (M = .25) and a lower proportion of unfavorable thoughts (M = .43) in response to strong than in response to weak arguments (Ms = .14 and .53, respectively), Fs(1, 70) = 7.50 and 3.30, $ps <$ .01 and .08, respectively. Again, this conclusion is qualified by significant interactions of argument quality and mood, Fs(1, 70) = 8.65 and 2.76, $ps < .005$ and .11, for proportions of favorable and unfavorable thoughts, respectively.

This effect of argument quality is due exclusively to the cognitive responses of subjects in a bad mood. These subjects generated a higher proportion of favorable and a lower proportion of unfavorable thoughts in response to the strong arguments than in response to the weak arguments, ts(70) = 3.96 and 2.43 $ps < .0005$ and .003, respectively, reflecting a high degree of systematic elaboration of the message. The cognitive responses generated by subjects in a good mood, in contrast, did not vary as a function of message quality, ts < 1, suggesting that the occurrence of favorable and unfavorable thoughts under a good mood was independent of the content of the message.

No other significant effects emerged either for the proportion of favorable or for the proportion of unfavorable thoughts, all Fs < 1; or did the proportion of neutral thoughts show any impact of the experimental manipulations.

In combination with the attitude data, these findings clearly support the hypothesis that the impact of mood on persuasion is mediated by its impact on the choice of processing strategies. Whereas subjects in a bad mood elaborated the content of the message according to a central route of persuasion, subjects in a good mood did not.

Recall and recognition data. Subjects' free recall data were categorized by two independent judges, who agreed on 97% of the listings, as either "correct" or "false." The mean number of recalled arguments was 6.7 (out of 11) and was not affected by the experimental manipulations, all Fs < 1.

To analyze subjects' recognition data, the difference between hits and false alarms was computed (Murdock, 1982). Overall, subjects showed a better recognition of weak than of strong arguments, $F(1, 70) = 5.83$, $p < .02$. No other effects emerged. Thus, there is no evidence that would suggest that subjects' mood or focus of attention affected their memory for the arguments.

Discussion

In combination, the findings of Experiment 1 suggest that recipients' moods affect their processing modes. Specifically, subjects in a good mood seem less likely to elaborate the arguments presented than subjects in a bad mood. Accordingly, subjects in a bad mood generated a higher proportion of favorable cognitive responses, and

showed more attitude change, when exposed to a message that presented strong arguments than when exposed to a message that presented weak arguments. Subjects in a good mood, in contrast, were not differentially influenced by strong or weak arguments in either their cognitive responses or their attitude change, unless they were explicitly instructed to focus on the quality of the message. This pattern of findings suggests that subjects in a bad mood proceeded via a central processing route, which subjects in a good mood used only if they were explicitly instructed to do so.

We have to add, however, that subjects assigned to the bad-mood manipulation still reported a mood level above the midpoint of the mood scale, raising the possibility that they were in a "neutral" mood rather than in a pronounced bad mood. Note, however, that most people, most of the time, report being in a good mood (Bless & Schwarz, 1984; Matlin & Stang, 1978; Sommers, 1984). Accordingly, values in the middle range of a mood scale may already reflect the subjective experience of a negative deviation from one's usual mood. Moreover, additional comparisons with chronically depressed subjects (see note 1) indicated that their responses did not differ from those in the induced bad-mood conditions, supporting the assumption that the induction of a mildly depressed mood was successful.

EXPERIMENT 2

If the interaction of mood and message quality on attitude change obtained in Experiment 1 is mediated by the impact of moods on subjects' cognitive responses, this interaction should be affected by other variables that are known to influence message elaboration. Most important for our present purposes, distraction has been shown to interfere with the systematic processing of a message. As a consequence, distraction reduces the differential impact of strong and weak messages (see Petty & Brock, 1981).

Accordingly, one can test the hypothesis that the impact of mood on persuasion is mediated by its impact on subjects' cognitive responses by introducing a distraction manipulation. If subjects in a bad mood are likely to elaborate the message, while subjects in a good mood are less likely to do so, introducing a distraction manipulation should eliminate the mood effects obtained in Experiment 1. To test this hypothesis, subjects in a good or bad mood were exposed to strong or weak arguments and were or were not distracted during exposure. Because all subjects in Experiment 2 received the "language focus" instruction that had been used in Experiment 1, the two levels of the distraction factor constitute conditions of low versus moderate elaboration likelihood.

Method

Subjects and design. Seventy-five female students at the University of Heidelberg, with a mean age of 22.4 years, were randomly assigned to the conditions of a 2 (positive vs. negative mood) × 2 (strong vs. weak arguments) × 2 (no distraction vs. distraction) factorial design. Number of subjects per cell ranged from 8 to 11. Subjects received DM 8 (approximately $4) for their participation.

Procedure. Except for the distraction conditions described below, the procedure and the independent and dependent variables were identical to those in language focus condition of Experiment 1. However, no free recall or recognition data were collected.

Distraction manipulation. Subjects assigned to the distraction conditions were shown 11 slides with simple computation tasks (e.g., 5 + 4 – 2 = ?) during exposure to the tape. They had to solve these tasks and write down the answers on a solution sheet. Following procedures used by Zimbardo, Snyder, Thomas, Gold, and Gurwitz (1970), subjects were told that their main task was to listen to the tape.

The pace of the slide presentation, 11.3 s per task, was pretested to ensure that the computation tasks would require a certain degree of cognitive capacity but that subjects would still be able to listen to the tape. Of the 38 subjects assigned to the distraction conditions, 36 solved all tasks correctly, and 2 subjects provided one incorrect solution.

Results

Mood. Subjects who had described a positive life event reported being in a better mood ($M = 6.3$) than subjects who had to describe a negative life event ($M = 5.4$), $F(1, 67) = 4.18\ p < .04$; all other Fs < 1. Thus, the mood manipulation was successful.

Attitude change. As in Experiment 1, the influence of the persuasive communication was inferred from the recipients' approval of the suggested fee increase and the amount of increase they recommended, and multivariate analyses were computed. Both indexes are shown in Table 2 as a function of strength of arguments, subjects' induced mood, and distraction.

A specified triple interaction was predicted for this experiment, and this prediction was tested by a focused multivariate a priori contrast rather than an omnibus F test, following suggestions by Rosenthal and Rosnow (1985). The result of this analysis confirms the predicted triple interaction, $F(2, 61) = 3.02$, $p < .06$.[3] Diagnosis of this interaction indicates that the quality of the message affected *nondistracted* subjects when they were in a bad mood, $F(2, 61) = 4.21$, $p < .02$, but not when they were in a good mood, $F < 1$, resulting in a nonsignificant simple interaction of mood and argument quality, $F(2, 61) = 2.28$, $p < .12$. Additional univariate tests revealed a significant simple interaction for the "approval" measure, $F(1, 67) = 4.29$, $p < .05$, but not for the "amount of money" measure, $F(1, 62) = 2.14$, $p < .12$. Overall, this pattern of results replicates the findings of Experiment 1.

Distracted subjects, in contrast, were not differentially affected by strong and weak arguments under either good or bad mood conditions, both Fs < 1. Accordingly, no simple interaction of mood and argument quality emerged under distraction conditions, $F < 1$.

In summary, either being in a good mood or being distracted eliminated the advantage of strong over weak arguments. Moreover, no effect of mood on attitude change was obtained under distraction conditions, as suggested by the hypothesis that the impact of mood on attitude change is mediated by its impact on subjects' cognitive responses.

TABLE 2: Attitude Change and Cognitive Responses as a Function of Mood, Message Quality, and Distraction

	Distraction Task			
	No		*Yes*	
	Mood		*Mood*	
	Good	*Bad*	*Good*	*Bad*
Contrast Weights				
Strong arguments	1	−3	1	1
Weak arguments	−1	3	−1	−1
Attitude Change				
Approval				
Strong arguments	4.3	5.3	4.7	4.0
Weak arguments	4.2	2.6	4.0	4.1
Recommended fee				
Strong arguments	51.00	52.55	53.75	53.10
Weak arguments	51.22	46.43	52.30	50.00
Cognitive Responses				
Favorable thoughts				
Strong arguments	.15	.35	.25	.27
Weak arguments	.14	.07	.29	.23
Unfavorable thoughts				
Strong arguments	.39	.29	.26	.23
Weak arguments	.41	.60	.31	.45

NOTE: The recommended fee is given in deutsche marks. The possible range of values for approval is 1 (*strongly disapprove*) to 9 (*strongly approve*). The cognitive response data show mean proportions of favorable and unfavorable thoughts.

Perceived argument quality. As expected, subjects rated strong arguments as stronger ($M = 5.58$) than weak arguments ($M = 3.86$), $F(1, 67) = 11.75$, $p < .001$. The evaluation of the arguments was affected neither by mood nor by the distraction tasks, all $ps > .10$. This indicates that all subjects, including the distracted ones, recognized the difference in argument quality. Thus, the pattern of the attitude results cannot be explained by differential evaluations of the quality of the arguments.

Cognitive responses. Overall, nondistracted subjects reported more thoughts in the thought-listing task ($M = 5.24$) than distracted subjects ($M = 4.83$), $F(1, 67) = 5.02$, $p < .03$, indicating that the distraction manipulation was successful in reducing the total number of cognitive responses. No other significant effects on the total number of reported thoughts emerged.

Separate analyses of the proportion of favorable and unfavorable thoughts, presented in the lower part of Table 2, indicated that nondistracted subjects generated a smaller proportion of favorable thoughts ($M = .17$) and a higher proportion of

unfavorable thoughts (M = .43) in response to the counterattitudinal message than distracted subjects (Ms = .23 and .31 respectively), Fs(1, 67) = 3.02 and 4.10, ps < .09 and .05, respectively. This finding further reflects the success of the distraction manipulation.

In addition, main effects of argument quality on both thought measures emerged. Subjects who were exposed to strong arguments reported a greater proportion of favorable thoughts (M = .25) and a smaller proportion of unfavorable thoughts (M = .29) than subjects who were exposed to weak arguments (Ms = .18 and .44, respectively), Fs(1, 67) = 2.06 and 6.37, ps < .16 and .02, respectively. As in Experiment 1, these main effects were qualified by interaction effects of mood and argument quality that parallel the attitude change data, Fs (1, 67) = 3.15 and 3.88, ps < .08 and .06, for the proportion of favorable and unfavorable thoughts, respectively.

Specifically, subjects in a bad mood reported a higher proportion of favorable thoughts (M = .31) and a smaller proportion of unfavorable thoughts (M = .26) after listening to strong arguments than after listening to weak arguments (Ms = 26 and .53); Fs (1, 67) = 5.45 and 10.16, ps < .05 and .01, respectively, for the simple main effects. In contrast, subjects in a good mood were not affected by argument quality, either in the proportion of favorable thoughts (M = .27 and .26 for strong and weak arguments, respectively) or in the proportion of unfavorable thoughts (M = .33 and .36) that they reported Fs (1, 67) < 1 and 1.74, n.s., respectively, for the simple main effects.

Separate analyses under each distraction condition suggest that the interaction effects of mood and argument quality are due primarily to the behavior of nondistracted subjects. Specifically, nondistracted subjects in a bad mood reported a higher proportion of favorable thoughts (M = .35) and a smaller proportion of unfavorable thoughts (M = .29) in response to the strong rather than the weak arguments (Ms = .07 and .60, respectively), ts (67) = 2.84, and −2.62 ps < .01 and .02, respectively. This pattern was less pronounced when bad-mood subjects were distracted, Ms = .27 and .23, t < 1, for favorable thoughts in response to strong and weak arguments, and Ms = .23 and .45, $t(67) = -1.86$, $p < .07$, for unfavorable thoughts.

The cognitive responses reported by subjects in a good mood in contrast, were not affected by the distraction manipulation, all ts < 1, again paralleling the attitude change data. Finally, a contrast analysis was computed to test the significance of the predicted triple interaction, paralleling the analysis of the attitude change data. This analysis confirmed the statistical reliability of the described findings for the proportion of favorable thoughts, $t(67) = -2.41$, $p < .02$, but not for the proportion of unfavorable thoughts, $t(67) = 1.54$, $p < .10$.

In summary, either being distracted or being in a good mood interfered with subjects' elaboration of the message, as predicted by the hypothesis that the effects of mood on attitude change are mediated by subjects' cognitive responses.

GENERAL DISCUSSION

In combination, the findings of the experiments reported indicate that mood affects recipients' processing modes. Specifically, subjects in a good mood seem less likely

to elaborate the arguments presented than subjects in a bad mood. Accordingly, subjects in a bad mood generated a higher proportion of favorable cognitive responses and a smaller proportion of unfavorable cognitive responses and showed more attitude change when exposed to a message that presented strong arguments than when exposed to a message that presented weak arguments. Subjects in a good mood, however, were not differentially influenced by strong or weak arguments in either their cognitive responses or their attitude change.

Moreover, Experiment 2 provided direct evidence for the mediating role of recipients' cognitive responses: When subjects in a bad mood were distracted from processing the content of the message, their increased responsiveness to strong rather than weak arguments was eliminated, indicating that being in a bad mood is associated with systematic message elaboration. Subjects in a good mood, however, were not affected by a distracting task, suggesting that they did not engage in message elaboration to begin with. Thus, either being distracted or being in a good mood reduced recipients' elaboration of the message, suggesting that the two are functionally equivalent.

As a mirror image to this finding, Experiment 1 also demonstrated that subjects in a good mood did elaborate the message if explicitly instructed to do so. Subjects in a bad mood, in contrast, elaborated the message in the absence of explicit instructions. Thus, either being instructed to focus on the content of the message or being in a bad mood resulted in message elaboration, again suggesting that the two are functionally equivalent.

Note that this pattern of findings renders it unlikely that the impact of good mood on elaboration likelihood is due to limits on subjects' cognitive capacity: If good mood severely limited subjects' processing capacity, simply instructing them to pay attention to the message should not eliminate the mood effect. Rather, this finding suggests that the impact of mood is mediated by subjects' motivation to engage in effortful, detail-oriented processing of the content of the message. In this regard, the current results parallel findings in other domains that suggest that the likelihood of effortful, analytic processing of information decreases as mood states become more positive (see Fiedler, 1988; Schwarz, in press, for reviews). As suggested elsewhere (Schwarz, in press), being in a bad mood may inform the individual that his or her current situation is problematic and requires detailed attention. It may thus trigger the careful processing strategies that are adequate for handling problematic situations. In contrast, being in a good mood may inform the individual that his or her current situation is nonproblematic and may thus foster reliance on simple heuristic strategies. If so, we may expect individuals in a bad mood to be more likely to elaborate a message than individuals in a nonmanipulated mood, in particular because nonmanipulated moods are usually of a somewhat elevated quality (Bless & Schwarz, 1984; Matlin & Stang, 1978; Sommers, 1984), whereas individuals in a good mood are least likely to engage in message elaboration. Clearly, future research should attempt to induce good and bad moods at several levels of extremity to explore these issues.

Finally, we note that the current findings are consistent with results reported by Worth and Mackie (1987) on the basis of different experimental procedures. It

therefore seems safe to conclude that the valence of the induced mood states, rather than any specific characteristics of the mood manipulations, drives the phenomena observed.

In conclusion, putting recipients in a good mood when we want to influence them may not always be a good idea. Specifically, when we have strong arguments to present in favor of our case, a good mood may reduce their impact by interfering with recipients' elaboration of the message, unless recipients are highly motivated for other reasons. This interference is particularly undesirable because attitude change via a central route of persuasion has been found to be more stable than attitude change via a peripheral route (Petty & Cacioppo, 1986a, 1986b). Thus, strong arguments are likely to be more persuasive when we deliver them to an audience that is in a neutral or slightly depressed mood. Weak arguments, in contrast, are more effective when recipients do not elaborate them. Therefore, if we have nothing compelling to say, putting the audience in a good mood may be a smart choice—much as many advertisers seem to have known for quite a while.

NOTES

[1]A more detailed presentation of these hypotheses and research is provided in an extended report of the present studies that may be requested by writing to the authors.

[2]Eleven subjects did not indicate which fee they would consider appropriate. These refusals were independent of experimental conditions, $\chi^2(7) = 4.7$, n.s.

[3]Five subjects did not indicate which fee they would consider appropriate. These refusals were independent of experimental conditions, $\chi^2(7) = 8.5$, n.s.

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